

resellers. Even assuming it is completely accurate, PSPs will be unable to collect those payments unless they can find a way to bill and collect those resellers. Because of the delay in notification by MCI, APCC cannot realistically expect to collect any of these payments until October at the earliest.

Because there is no definitive list of switch-based resellers and debit card providers, APCC has had to resort to trial-and-error to identify, bill and collect from the resellers responsible for paying per-call compensation. APCC's initial efforts to request compensation payments from hundreds of known resellers resulted in minimal compliance. Given the quantity of resellers and the relatively tiny number of calls routed to each one, APCC expects that the total cost of billing resellers will be very high in relation to the amount collected. Thus, it is likely that the collection costs and uncollectibles associated with calls attributed to resellers will be far higher – perhaps 50% or more – than the costs and uncollectibles associated with facilities-based carriers.

All these developments demonstrate that APCC was being very conservative when it estimated dial-around collection costs and uncollectibles of 4.3 cents per call. In reality, the total collection costs and uncollectibles are likely to be much higher.

3. ANI digit upgrade costs

Finally, the Commission incorrectly calculated the add-on adjustment for ANI digit upgrade costs. The Commission should have divided the estimated monthly cost of ANI digit upgrades by 116, the number of dial-around calls at a low-volume location. Instead, it divided the cost by 542, the total call volume estimated at a low-volume location. Tariffs

submitted to date for the largest LECs indicate that PSP costs for ANI digit upgrades may average one to two cents per call over a two-year recovery period.¹⁴

E. Concerns about locational monopolies, upward pressure on coin rates, and limitations on the use of pennies do not justify any modification in the dial-around compensation methodology

The Commission seeks comment on “whether there are any market imperfections that might affect the use of the local coin rate as a market-based surrogate for coinless calls, including locational monopolies, and limitations on the use of pennies in payphones”. Opponents of the Commission’s scheme have suggested three reasons why the scheme could be affected by market imperfections. First, they claim that in locational monopolies, the local coin rate would not be subject to market discipline, and consequently the market mechanism for keeping the dial-around rate would not work. Second, they claim that tying the dial-around rate to the local coin rate will create an artificial incentive to raise the local coin rate higher than it would otherwise go, in order to gain extra revenue from dial-around traffic. Third, they claim that the local coin rate is artificially high because the inability of payphones to take pennies prevents the rate from settling at (for example), 31, 32, 33, or 34 cents instead of 35 cents. None of these alleged imperfections significantly detract from the validity of the Commission’s market-based approach.

¹⁴ APCC recognizes that if the Commission reconsiders its treatment of the fixed cost of the coin mechanism, as discussed above, then the Commission logically treat fixed ANI upgrade costs (i.e., the flat monthly charge per payphone line) in a consistent waiver. However, if the Commission adheres to its treatment of coin mechanism cost as wholly attributed to coin calls, then in order to be consistent it must attribute ANI upgrade costs wholly to dial-around calls.

1. Locational monopolies

As discussed in Section III above, the market developments to date indicate that alleged “locational monopolies” do not exert any significant upward pressure on local calling rates. To APCC’s knowledge, there have been few, if any complaints about local coin rates at airports, or any other supposed “locational monopoly” site. Even in those few locations, such as airports, where callers might arguably be considered temporary “captives” of the site owner (although wireless phones are an especially prevalent option at airports), the site owners tend to be highly sensitive to caller complaints. As Haring and Rohlfs point out, consumers expectation about price tend to be formed by their experience at the normal location where competitive alternatives are plentiful. Therefore, consumers encountering higher prices at mass-transit facilities are likely to complain, and facility operators (frequently government entities) will be sensitive to such complaints, not least because of the competition they face from other facilities. SPR, ¶ 10. As a result, the prevailing rate in most areas, 35 cents per call, is also the prevailing rate at locations such as airports that are thought to have “locational monopoly” characteristics. See Exhibit 2. Although the Commission expressly provided, in its First Report and Order, for states to petition the Commission if they had evidence that payphone competition was not working, in the nine months since deregulation of local coin rates, no state has filed a single petition. Therefore, the Commission should find that any “locational monopolies” will have no significant effect on the operation of its market-based dial-around rate-setting mechanism.

2. Incentives from linking of rates

The claim that linking the dial-around rate to the local coin rate (at the end of the two-year transition period) will result in artificial incentives to raise the local coin rate is not persuasive. First, available data show that the average number of local coin calls is at least

three times the number of dial-around calls. Thus, any incentive to raise the local coin rate to an artificially high level in order to gain additional revenue from dial-around calls will be offset by the resulting suppression of demand for local coin calls. In addition, an increase in the dial-around rate is likely also to trigger a market response, in the form of blocking and/or avoidance of payphones by the many callers that will be directly or indirectly billed for a pass-through charge. See Section IV. F. below.

Significantly, the claim that there will be an artificial incentive to increase the local coin rate is inconsistent with IXC arguments on related issues. In order to defeat any adjustment to the per-call compensation rate based on the lower elasticity of dial-around calls, AT&T has claimed that the elasticity of dial-around calls is higher than that of local coin calls. If AT&T is right, or if the elasticities are equal, then there will be no incentive to increase the local coin rate, because the dial-around rate would be already at, or higher than the competitive equilibrium rate, and any attempt to increase in the local coin rate (in order to increase the dial-around rate) would actually cause suppression of demand and loss of local coin revenue as well as dial-around revenue.

If, on the other hand, the elasticity of dial-around calls is lower than that of local coin calls, then the dial-around rate set by the Commission would be lower than its equilibrium level. In that case, there might be some incentive to raise the local coin rate slightly in order to move the dial-around rate closer to its revenue-maximizing level. However, any increase in the local coin rate would cause loss of revenues from local coin calls (which are more numerous and have higher elasticity). The extent to which there would be such an incentive would depend on the disparity between the elasticities. The rate would settle somewhere between the equilibrium rates for local coin calls and dial-around calls, respectively.

This emphasizes, again, the importance of setting a rate differential that reflects the relative elasticities of demand of local coin calls and dial-around calls. But in any event, to the extent that there is some marginal incentive to raise the local coin rate, it is an indication that the dial-around rate is too low – not too high.

Furthermore, any such effect will not enable PSPs to earn supracompetitive profits, and thus will not change the fact that average costs and average rates converge in the payphone market. So, even if a failure to arrive at a completely correct allocation of joint and common costs produces some distorting effects, that does not undermine the fundamental validity of the Commission's market-based approach.

3. Use of pennies

The inability to use pennies in payphones will not result in a significant distortion of the market-based dial-around rate. As a result of the inability of payphones to accept pennies, local coin calling rates must be “rounded off” to the nearest nickel. However, there is no valid reason to conclude that “rounding off” will have a significant distorting effect, because the rounding will occur in both directions. Because the payphone market is competitive, “rounding up” will be counter-balanced by “rounding down.” If firms consistently “rounded up,” they would earn supracompetitive profits, and would attract additional entry and deployment of payphones, resulting in competitive “rounded down” rate reductions at various locations until competitive equilibrium was reached.

F. Available market checks ensure that the rate will be a market rate

There are two additional “market checks” – in addition to the reliance on the market-based local coin rate as a starting point – in the system of dial-around compensation adopted by the Commission. One of these additional market checks is the ability of IXCs

to block calls in the event that they or their subscribers do not want to pay the compensation rate that applies to a particular payphone. A second additional market check results from the fact that the amount of the dial-around compensation charge is already passed through to many end users. As the ability to pass through works its way through the market, this market check will be strengthened.

Significantly, both these market checks operate in a downward-only direction. They provide market mechanisms to ensure that dial-around rates are not raised beyond a certain level, but they do nothing to ensure that dial-around rates do not fall below a certain level.

1. The blocking mechanism exercises downward-only pressure on the rate of compensation

As discussed in the Commission's earlier orders, IXC's have the ability and are permitted to block any dial-around calls for which they conclude that the compensation rate is "too high." PSP's by contrast, are not allowed to block dial-around calls for which they conclude that the compensation rate is "too low." Thus, the leverage that can be brought to bear by blocking or threats of blocking dial-around calls operates in only one direction -- to drive the dial-around rate down below the "default" rate set by the Commission.

2. The ability to pass the charges to the party initiating the call exercises downward-only pressure on the rate of compensation

Under the FCC's compensation system, payphone users can also exercise market leverage to affect the compensation rate, because IXC's are passing compensation charges on to their customers. In the case of access code calls, which make up more than one-third of all dial-around calls, the compensation charges are passed through directly to calling card or debit card users. However, even in the case of subscriber 800 calls, where the compensation charge is passed through initially to the 800-service subscriber, the 800-

service subscriber has the ability to in turn pass through the charges to those of its customers who use payphones to order or make use of the 800-service subscriber's services.¹⁵ Payphone users will be aware of the compensation charge in effect at particular payphones, because it is linked to the posted local coin rate. Those payphone users who incur such passed-through compensation charges, and who believe that compensation charges at some payphones are "too high," are likely to alter their behavior by avoiding the use of payphones that charge high compensation rates. See APCC's Opposition to Petitions for Reconsideration of AT&T, 800 Number Subscribers, and Paging Service Providers, filed January 7, 1998, at 9-10. Like the call-blocking option for carriers, the payphone-avoidance option for individual payphone users will exercise only downward pressure on the compensation rate.

V. THE COMMISSION SHOULD CONSIDER OTHER RELEVANT MARKET-BASED SURROGATES

While the local coin rate, as a market rate, provides a better starting point than cost-of-service ratemaking, it is not the best market-based approach. For a number of reasons, the Commission's use of the local coin rate as the starting point has resulted in understatement of the costs properly allocable to dial-around calls. First, as discussed in Section IV. D. above, the Commission undertook to adjust the local coin rate for differences in available costs of local coin and dial-around calls. These adjustments erred on the side of under-allocation costs to dial-around calls. See also SPR, ¶¶ 43-44.

¹⁵ For example, a box-office ticket service that sells show tickets over the phone could include a \$.035 surcharge to the overall charge whenever a customer makes a call from a payphone. This payphone surcharge would be analogous to the service charge that the ticket service already includes over and above the face value of the ticket. Similarly, a rental car company could add a payphone surcharge to the bills of customers who reserve cars from payphones.

Second, the use of the local coin rate, without adjustment for relative demand elasticities, is based on an assumption that the demand elasticities of local coin calling and dial-around calling are equal. The Commission previously found that it was unable to determine the relative demand elasticities and therefore effectively assumed that they were equal. This assumption may be permissible in the absence of solid evidence. However, as SPR shows, there are sound reasons to conclude that the demand elasticity of local coin calling is greater than the demand elasticity of dial-around calling. Treating them as equal, therefore, creates a bias that understates the costs properly allocable to dial-around calling. SPR, ¶¶ 44-47.

Third, as APCC has stated in earlier phases of this proceeding, the deregulated local coin rate is only one of several market rates that are available as measures of the market price of using a payphone. Indeed, the deregulated local coin rate level of 35 cents estimated by the Commission is at the low end of the range of market rates that are relevant to setting the rate for dial-around compensation.¹⁶ The record indicates that other surrogate levels are *substantially higher*. By leaving these rates out of the calculus, the Commission introduces an additional bias that ensures the dial-around rate will be understated.

The Commission could avoid the need for elasticity analysis and cost adjustments by using one of the alternative market-based starting points described below. The Commission should reexamine these alternatives, including the use of blended market surrogates that incorporate 0+ commission levels as well as or in lieu of local coin rate levels, as the baseline benchmark for calculating dial-around compensation.

¹⁶ The Court decisions did not disturb the FCC's finding that deregulated local coin rates generally have settled at the level of 35 cents.

A. 0+ commission levels

0+ commission levels are a logical indicator of the market price of the opportunity to receive calls from a payphone. They are the only known instance where carriers and payphone providers meet in the marketplace to negotiate a price for the routing of coinless calls from the payphone to the carrier. As such, 0+ commission levels can be considered a reasonable approximation of the price that would be agreed upon if it were possible to have free negotiations over the price for routing “dial-around” calls.

In CC Docket No. 91-35 the Commission expressly recognized that it is a “reasonable approach” to base dial-around compensation on AT&T 0+ commissions. Policies and Rules Concerning Operator Service Access and Payphone Compensation, Second Report and Order, 7 FCC Rcd 3251, 3257 (1992). In the First Report and Order, in this proceeding, however, the Commission rejected the use of 0+ commission levels on the ground that:

use of 0+ commission data would tend to overcompensate PSPs, because these commissions may include compensation for factors other than the use of the payphone, such as a PSP's promotion of the OSP through placards on the payphone.

First Report and Order, ¶ 69. The Commission should reconsider its rejection of 0+ commission data. The Commission has not explained why it has summarily rejected 0+ commissions as a benchmark, after it previously relied on 0+ commission levels for the same purpose. There is no reason to believe that the commission level includes any substantial element of compensation for “placard” promotion, especially in the case of a carrier such as AT&T, which massively employs numerous other methods of promoting its operator services. See Comments of APCC, filed July 1, 1996, at 8-9 (“APCC 1996 Comments”).¹⁷

¹⁷ APCC hereby incorporates by reference its 1996 Comments and Reply Comments, and the 1996 Comments of the Illinois Public Telecommunications Association (IPTA).

The data submitted in 1996 by APCC showed that AT&T's average commission levels -- which historically have been lower on a per-call basis than other IXC's -- ranged from 45 cents to 80 cents per call. *Id.* at 32.¹⁸ The middle of this range is 62.5 cents per call.

B. 0- transfer rates

0- transfer rates, while not as close surrogates as 0+ commissions, are a reasonable surrogate for dial-around compensation because they indicate the minimum price that IXC's are willing to pay to obtain telephone traffic. Policies and Rules Concerning Operator Service Access and Payphone Compensation, Second Report and Order, 7 FCC Rcd 3251, 3257 (1992). Current record evidence provided by the RBOC Coalition indicates that the average price of a 0- transfer call (adjusted for the presence of unanswered calls) is 42-49 cents per call. APCC has recently surveyed seven of the top eight LECs, and determined that their average unadjusted 0- transfer rate is 31 cents per call.¹⁹ When adjusted for

As the cited pages illustrate, AT&T is now promoting access to its operator services primarily through 1-800 dialing. Thus, there is little reason to believe that AT&T derives substantial value from placard promotion. Thus, AT&T's 0+ commissions clearly are payments for call origination, not carrier promotion. See also IPTA 1996 Comments at 13 (noting that, in the Illinois Commerce Commission's dial-around proceeding Sprint's witness stated that the dial-around rate should be 2% less than the market rate of 0+ commissions). Reducing AT&T's 0+ commissions of 22-30% (APCC 1996 Comments at 32) by 2% results in a dial-around rate of 40-75 cents per call.

⁹ The RBOC Coalition estimated a somewhat higher range of AT&T commissions, from 60 cents to \$1.00 per call. IPTA estimated commission levels for MCI, Ameritech and other OSPs to be \$0.48-\$0.60 per call. IPTA 1996 Comments at 12.

¹⁹ The rates are: Ameritech, 28 cents; Bell Atlantic, 28 cents; BellSouth, 35 cents; NYNEX, 30 cents; Pacific Bell, 30 cents; Southwestern Bell, 28.2 cents; and GTE, 35 cents. Data for US West was unavailable. See Comments of APCC, filed August 26, 1997 ("APCC 1997 Comments"), Attachment 1.

unanswered calls (using the RBOC Coalition's factors which average about 75%), the average price of a completed 0- transfer call is 41 cents per call.

C. Sent-paid toll call surcharges

Another reasonable indicator of the market price of using a payphone is the surcharge applied by a payphone provider for sent-paid toll calls. This represents the amount, over and above the standard transmission charge, that a payphone provider charges for the convenience of making a toll call from a payphone. APCC's review of AT&T and LEC tariffed charges indicated that sent-paid surcharges can range from \$0.75 - \$2.05 per call. See APCC 1996 Comments, Attachment 3. See also IPTA 1996 Comments at 12 (\$0/95 per call). The middle of this range is \$1.40 per call.

* * *

Another reasonable approach would utilize a blended market-based surrogates consisting of a weighted average of the rates for local coin calls, operator assisted call commissions, and sent-paid toll surcharges, because these three surrogates are based on prices actually charged in the marketplace for origination of calls from payphones. The simple average of these three surrogates is about 80 cents per call. A weighted average based on average numbers of each type of call is roughly 45 cents per call.²⁰

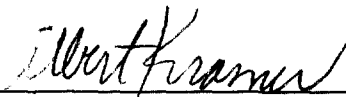
²⁰ APCC's 1996 survey shows payphones averaging 24 0+ calls per month and 511 coin calls per month. APCC 1997 Comments, Attachment 4. It is reasonable to estimate that coin calls are 90% local (460 calls) and 10% toll (51 calls). $((24 \times \$0.625) + (460 \times \$0.35) + (51 \times \$1.40) + 6.00) \div (24 + 460 + 51) = \0.46 .

CONCLUSION

The local coin rate provides a reasonable, conservative starting point for deriving the dial-around compensation rate. If the Commission wishes to select a different starting point, there are a variety of market-based alternatives. Any of these market-based alternatives would be reasonable and would be preferable to a cost-of-service approach.²¹

Dated: July 13, 1998

Respectfully submitted,


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²¹ As the Commission noted in the Second Report and Order, ¶ 4, there remains to be addressed the compensation obligations applicable during the period from November 1996, through October 6, 1997. During this period, compensation payments suffered major disruptions due to the Court's IPTA decision vacating the interim compensation rate totaling \$45.85 per payphone per month.

The Commission's decision in this phase of the proceeding will provide a basis for a true-up of compensation obligations for that interim period. With the full implementation of "Flex ANI" to provide payphone-specific digits with every call, such a settlement of interim obligations can be based on actual data on call volumes received by each IXC from each payphone. However, as noted in Section V. D., above, at present, per-call payments by the larger IXCs are subject to wide, unexplained variations, while most IXCs have yet to make any per-call payments at all. Therefore, the Commission should ensure that IXCs are in full compliance with their per-call payment obligations before implementation of a final settlement for the interim period.

Exhibit 1

STRATEGIC POLICY RESEARCH

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EMAIL spri-info@spri.com

Declaration of John Haring and Jeffrey H. Rohlfs

July 13, 1998

I. Introduction

1. Our names are John Haring and Jeffrey H. Rohlfs. We are principals in Strategic Policy Research, Inc., an economics and telecommunications policy consulting firm located in Bethesda, Maryland. Dr. Haring formerly served as Chief Economist and Chief, Office of Plans and Policy, at the FCC. Dr. Rohlfs was formerly Head of Economic Modeling Research at Bell Labs. We have been asked by the American Public Communications Council to comment on the issues the Federal Communications Commission (FCC) has raised in its *Notice* on payphone compensation issues.

2. The Commission, in its *Notice*, solicits comment on an economically appropriate compensation rate for coinless payphone calls, taking account of (a) the implications of competition in the payphone market; and (b) the import of any market imperfections (*e.g.*, in the provision of locations for payphone use) for use of the local coin rate as a market-based surrogate for coinless calls. In this report, we address these issues and explain the economic basis for our conclusion that the FCC's pricing plan provides an economically reasonable method for setting compensation for coinless calls. Indeed, the FCC's approach is markedly superior to the alternative "cost-modeling" approaches that have been suggested. As proposed by AT&T's expert, the latter suffer serious disabilities in that they systematically exclude relevant costs of production including costs of the coin drop mechanism and station site locations. Moreover, it is our view that a cost-modeling approach is incapable, even in principle, of solving the problem that needs to be addressed in the instant setting. We thus believe the FCC's market-based approach is the best way to proceed and that

reliance on the local coin rate, in particular, supplies a valid way to proceed. We believe the 6.6 cost differential the Commission has estimated likely *understates* the appropriate rate of compensation for coinless payphone calls in comparison with the compensation that would be paid in a competitive market. The rate is understated because the FCC has misspecified the relevant costs (*e.g.*, costs of the coin drop mechanism) and inappropriately disregarded demand elasticities.

3. As a consequence of provisions in the Communications Act of 1934 (as amended) that require payphone access for “dial-around” calls, the FCC finds itself in the position of trying to duplicate what “the market” would do without the benefit of an actual market to mimic.¹ Given the Act’s requirement for dial-around access, normal market transactions are precluded since the putative seller cannot withhold supply for lack of an acceptable payment. The Commission must thus, in effect, “protect” the seller by specifying appropriate compensation and, in this manner, prevent unfair expropriation without payment of the value-added the seller supplies.

4. As long as the government interposes itself and sets rules which alter the ability of business negotiations to produce mutually acceptable terms and conditions for voluntary exchange and productive coordination among different input suppliers, the government is necessarily burdened with the obligation to ensure fair compensation and must necessarily weigh the consequences of different compensation arrangements. In so doing, it needs to recognize that the principal performance consequence of its decisionmaking is quality of service (*viz.*, the number of phones deployed and the service features they embody) rather than profitability. Because there are generally no barriers to resource mobility in this industry sector, variations in compensation will primarily be manifested (in the long run) in business decisions to place or remove phones, not higher or lower profitability. The general absence of barriers to resource mobility ensures that only normal rates of return can be sustained. The FCC can thus not significantly alter long-run profitability in setting compensation. Instead, its compensation decisions can only affect the number of phones that will be deployed and the quality of service they afford (convenience, adequacy of shelter, cleanliness, *etc.*).

5. We endorse the FCC’s use of the “market-based” coin rate as a valid basis from which to draw economically legitimate inferences about relevant costs of production. Moreover, the

¹ In our view, the 0+ market provides a closely, if not precisely analogous market.

FCC's pricing plan would, in contrast to compensation based on a cost model (especially one that excludes payments for some relevant productive inputs), avoid a downward spiral in the number of payphones deployed. The FCC's plan would also afford incentives for placement of payphones where there is little usage, but (the few) callers place a high value on the ability to make calls. Another attractive feature of the FCC's approach is that it would produce automatic adjustments in compensation to track changes in, for example, economy-wide inflation and industry productivity. Because *marginal* traffic-sensitive costs of coin and coinless calls are about equal and because demand for coin calls is more elastic than demand for coinless calls, the FCC's pricing plan will, however, set compensation for coinless calls below the level that would be established through voluntary transactions under competition. The FCC is sensible to rely on a market-based cost surrogate — an approach for which there is both sound practical and theoretical grounding, but because it has not made economically suitable adjustments to the local coin rate to derive the coinless rate, the compensation it has estimated as reasonable likely understates the amount that would be established in a competitive equilibrium.

II. Theoretical Framework

A. Industry Structure

6. Most payphones are used jointly to produce both coin calls and coinless calls. Payphones display both economies of scale and scope — economic characteristics that have important implications for establishing reasonable compensation arrangements. The cost of a payphone station is largely fixed. This is a primary source of scale economies because fixed cost per unit of output falls when output (*viz.*, the number of calls) increases. Similarly, there is generally (but not always) cost-subadditivity when coin and coinless calls are provided with the same payphone (*i.e.*, an economy of scope derived from its being cheaper to provide both types of calls with the same phone rather than each type with its own stand-alone payphone). By definition, fixed costs are costs whose amount does not change when output varies. Hence, a price equal to marginal cost (*i.e.*, cost that *does* change — in particular, is *added* — when output varies) cannot include any contribution to fixed cost recovery. Compensation that covers only marginal costs cannot be

expected to cover fixed costs as well. To be fully compensatory, compensation must recover fixed as well as marginal costs.²

7. Payphones are differentiated by location. That is to say that phones in different locations may not be regarded by callers as perfect substitutes for one another. Other factors the same, a consumer at a particular location might gauge the degree of substitutability of one phone *vis-à-vis* another in terms of their relative convenience for which distance might supply a reasonable proxy.³ Payphones that are a block away might be deemed to be closer substitutes for one another than a phone that is a block away and one that is ten blocks away. But if the latter two phones are on the same side of the street and the would-be caller is in an automobile, they may be closer substitutes than the first two phones if one of these is located on the other side of the street. The point is merely that physical location serves in this industry setting to differentiate the product to a greater or lesser extent depending on a caller's particular circumstances.

8. While payphones are differentiated by location, the payphone industry is one characterized by low economic barriers to entry.⁴ Literally thousands of competing firms have entered the industry since competition has been permitted. Governmental barriers to entry have been removed. Most inputs used in the production of payphone services are competitively supplied in well-organized markets. Equipment components are available off-the-shelf, and there are national and regionally oriented trade associations that serve as clearinghouses for information and focal points for organizing joint action to address industrywide concerns.

9. Sometimes superior resources occur in such small quantities that a significant barrier to the expansion of output is provided by the unavailability of other good sources of supply.⁵ This

² Thus, when MCI's economic experts assert that "the true incremental cost of using payphones to reach interexchange carriers is, of course, essentially zero," they are, in essence, asserting that people can somehow use payphones to complete calls without contributing to recovery of the costs of supplying the phones. They can, of course, only do so by free-riding and compelling other callers to pay the freight. See Hatfield Associates, Inc., *Payphone Compensation Cost Analysis* (July 1, 1996), at 4.

³ Other factors may also be relevant — safety, insulation from the elements (a plus on a rainy day; a minus on a sunny day), and so forth.

⁴ For a full discussion of entry conditions in the industry, see Strategic Policy Research, *Economic Report on FCC Resolution of Payphone Regulatory Issues* (July 1, 1996), submitted on behalf of BellSouth.

⁵ See George J. Stigler, *The Theory of Price* (1966), p. 225.

sometimes occurs in mineral resource industries where deposits of natural resources often vary in quality (*viz.*, some are richer possessing a higher concentration of ore relative to other materials or located closer to the surface or located closer to economical means of transportation or to consumption sites). Usually these variations in resource quality simply give rise to rents as market prices are established by the costs of the marginal deposits. Infra-marginal (lower-cost) deposits in this situation naturally receive payments that reflect their productive superiority. It is conceivable that variations in resource quality might be so great that, over the relevant range of demand, lower-quality resources are incapable of offering effective competition for the high-quality resources. The usual experience even in this circumstance, however, is that new methods of exploration and development and new deposits are discovered that offer effective competition.

10. In the payphone industry, mass-transit and prison facilities are sometimes cited as examples of this type of circumstance. Travelers and inmates may possess limited supply alternatives given their respective circumstances and, therefore, may be susceptible to exploitation by the people (usually public officials) who administer these sites. While this possibility is often cited by those who wish to minimize compensation payments — indeed they often assert without basis that this special set of circumstances is the norm rather than the exception — it is by no means clear that it constitutes a problem warranting concern let alone draconian remedy. First of all, travelers do possess substitute alternatives, notably, wireless phones and phones in temporally or physically nearby locations. Furthermore, whenever excessive charges are levied, they invariably provoke complaints. Consumers whose price expectations are formed on the basis of prices charged in more competitive circumstances are thus not likely to stand for unreasonable charges in, say, a train station. They can be expected to voice complaints thereby evoking public scrutiny and disciplinary action where warranted. Moreover, public facilities of this sort are usually nonprofit institutions, whose operators are not likely to be in a position to benefit from any overcharges, but are likely to suffer from public complaints. In addition, there may be competition among public facilities, *e.g.*, to attract business to one city versus another or from one airport to another.⁶ Not surprisingly, therefore, this alleged problem is generally likely to prove more hypothetical than real.

⁶ In the Washington metropolitan area, there is active rivalry among the Reagan National, Dulles and BWI airports for traffic.

11. In more typical circumstances, callers usually possess a large number of effective substitute alternatives to a particular payphone. There are product substitutes for payphone calls (e.g., travelers are increasingly likely to be carrying a wireless phone).⁷ Different physical locations in reasonable proximity compete with one another.⁸ Placing calls earlier or later are temporal alternatives. (For example, a traveler can use a wireline phone either before leaving or after arriving at his/her final destination.) The ubiquity of potential payphone station sites in most locations makes it difficult to credit seriously a barrier to expansion of output on this ground. Given the ease of entry in this industry, any attempt to exploit a locational advantage is likely to prompt a swift supply response. Nearby locations will find it worth their while to make space available and thereby undercut the ability to extract any significant locational premium.

12. Given the ability of callers to alter their behavior, the supply of physical location sites should thus not properly be regarded as a serious competitive barrier. In establishing appropriate compensation arrangements for coinless calls, the Commission ought to take operating conditions that widely prevail as its primary reference point. Special or extraordinary circumstances may deserve special treatment. It is important, however, in establishing public policies to address special circumstances, not to burden normal and salutary methods of operating in more typical operating environments. Thus, price controls which prevent locational rent extraction/monopoly exploitation at certain public facilities may well cause shortages of supply not only at those facilities, but also at other locations where locational rents and monopoly exploitation are not problems.⁹ A sound approach to policymaking would not allow the (locational) tail to wag the (competitive) dog.

13. In its *First Report and Order*, the FCC found that basic economic conditions of supply and demand in the payphone industry are conducive to effective competition, even when control of valuable locations, including the special circumstances (e.g., mass transit facilities) to

⁷ In July 1998, wireless penetration was 23 percent and growing at 25 percent per year (Cellular Telecommunications Industry Association).

⁸ Where traffic is minimal, naturally fewer phones will tend to be deployed and they will be utilized less intensively. Charges to recover costs of deployment may, therefore, be higher. Limiting charges will limit deployment precisely in areas of infrequent demand.

⁹ See discussion below wherein we note that locational rents serve the important economic function of allocating scarce space among competing uses.

which we have just alluded, is taken into account. The existence of competitive conditions has both positive and normative implications for the supply of payphones: The mobility of resources deployed in the industry implies that the supply of payphones will rapidly adjust to whatever compensation arrangements are established. At the same time, the number and location of payphone stations deployed has historically been a matter of interest and concern to regulators, given the role payphones play in supplying network access to the less well-off and thus in meeting government universal service objectives. Universal availability of payphones also promotes public safety by facilitating the reporting of emergencies and affords consumer convenience in the form of ubiquitous access to the public telephone network.

B. Import of Differentiated Competition

14. For purposes of economic explanation and, particularly, policy prescription, it is important that an appropriate economic model be selected. If relevant economic circumstances are inadequately summarized in an inapt theoretical model, faulty policy prescriptions likely will follow. As we have seen, the payphone industry is one with basically free entry and a large number of firms, but individual payphone stations exhibit economies of scale and scope and are differentiated by location. The appropriate economic model to describe this type of industry setting is one of “differentiated competition.”¹⁰

15. In a differentiated competitive equilibrium, total revenues must equal total costs defined to include the cost of capital. As under “perfectly” competitive conditions (*i.e.*, no product differentiation and no economies of scale and scope), the existence of any economic profits — revenues in excess of costs — would simply provide incentive for an expansion of output which, given the absence of barriers to entry and expansion, would promptly occur and dissipate any “excess” profits. In the payphone setting, total costs and revenues would include both coin and coinless costs and revenues. Equilibrium “market-based” rates under differentiated competition are thus economically “reasonable” in the conventional regulatory sense because they permit the (regulated) firm to earn its cost of capital, but prevent it from earning any super-normal, “monopoly” profits.

¹⁰ This is the same as Chamberlinean competition, except that each firm produces *two* products, instead of one. See E. Chamberlin, *The Theory of Monopolistic Competition*, 8th Ed., Cambridge, Mass.: Harvard University Press, 1962.

16. Unlike a perfectly competitive equilibrium, however, prices under differentiated competition do not equal marginal cost. Instead, profit-maximization by each firm leads to prices marked-up over marginal cost in inverse proportion to the various elasticities of demand for different outputs perceived by each firm. The inverse elasticity rule applies so long as demands for the various products are independent. In the instant context, demands for coin calls and coinless calls would appear to be largely although not completely independent. We would thus anticipate that proportional mark-ups above marginal cost for coin and coinless calls would be inversely proportional to the perceived demand elasticities for these types of calls.¹¹

17. It may be worth noting how the competitive equilibrating process works in a differentiated market:

- For any given population of payphones, each payphone provider sets prices to maximize its profits. If the short-run profit maximization yields any profits that exceed a normal competitive return, another provider is likely to install a payphone nearby. In the differentiated competitive equilibrium, every firm operates at a profit maximum but the profits earned thereby do not exceed the competitive level.¹²

18. It is worthwhile and illuminating to observe that in a perfectly contestable market for a good (or set of goods) whose production exhibits economies of scale (or scope), the same characteristics obtain as the differentiated competitive equilibrium: zero profits (over and above the cost of capital) and prices following the inverse-elasticity rule.¹³ What drives the former results in each setting is freedom of entry and exit. What drives the latter result is the existence of scale and scope economies which necessitate departures from marginal-cost pricing to enable full cost recovery.

¹¹ If product demands are interdependent, the inverse-elasticity rule still applies, but "superelasticities" must be used instead of direct elasticities. See J. Rohlfs, *Economically-Efficient Bell System Pricing*, Bell Laboratories, 1979, at 8-9.

¹² There are many analogues in other markets. For example, a firm may introduce a new product (e.g., improved toothpaste) of which it is initially the sole supplier. The firm may need to manage its unique position with great skill in order to earn a competitive return on the product. If it does well and earns substantially more than a competitive return (in the short run), other suppliers will introduce new products that are very similar (e.g., other brands of improved toothpaste).

¹³ See W. J. Baumol, J.C. Panzar and R.D. Willig, *Contestable Markets and The Theory of Industry Structure* (Harcourt Brace Jovanovich, Inc., 1982) at 208ff.

III. Disabilities of a Cost-Modeling Approach

19. Before turning to discussion of the Commission's market-based approach to compensation, we first consider the principal alternative approach that has been proposed for setting compensation: the use of a cost model to establish an economically reasonable level of compensation for coinless calls. This approach suffers from a number of debilitating flaws which render it essentially useless as a practical method of setting compensation.

20. First, a cost model cannot, even in principle,¹⁴ provide estimates of relevant costs. A cost model can be specified to estimate traffic-sensitive (TS) costs and it can also provide estimates of non-traffic sensitive (NTS) costs *in dollars per month*. The problem is that it cannot provide estimates of average NTS cost *in dollars per call*. It is incapable of doing so because NTS costs in dollars per call depend on the number of payphones deployed and the number of payphones deployed depends in part on the compensation paid on coinless calls, which is supposedly being set *via* this process. The result is a circularity.

21. Consider the potentially devastating impact repeated application of this type of approach could have on the deployment of payphone stations. The cost-modeling approach attempts to calculate the compensation per call that would allegedly recover the cost of a given population of payphones. The problem for this approach is that the payphone industry is not a public utility with an obligation to maintain any initially given population of payphones. The payphone population is largely free to vary and presumably will in response to changes in compensation. The distribution of payphone usage appears to be such that more than half of all payphones are used less than average. This implies that, under the cost-modeling approach, more than half of all payphones would receive less than the costs that need to be recovered and presumably be removed.¹⁵

22. As phones are removed, the number of payphones declines and the average usage per payphone increases. This means that cost per call declines, because NTS costs are now spread over more calls. If compensation is now adjusted downward to reflect lower cost per call, the same

¹⁴ The problems described in this paragraph are over and above the data and methodological problems always encountered in empirical cost analysis.

¹⁵ Under *any* distribution of payphone usage, phones with below-average usage would be non-viable if compensation were set on the basis of station costs averaged over the total number of calls.

process is re-initiated.¹⁶ At the new lower level of compensation, the below-average usage phones become unprofitable and are removed, causing average usage per (remaining) payphone to rise and per-call cost to fall and starting the same process again.

23. The number of phones is not the only relevant dimension of output. Stations also vary in a number of quality dimensions (*e.g.*, in terms of shelter, lighting, cleanliness, *etc.*). Again, a process for setting compensation that fails to recognize the mobility of resources will consign the consuming public to ever poorer service along each relevant performance dimension. Compensation set to recover the total costs of a given population of payphones of varying quality by averaging their costs over all calls will fail to recover the costs of equipment of above-average expense. Compensation set to recover average costs can only recover costs on average and will fail to recover above-average costs of above-average equipment.¹⁷

24. The preceding analysis presumes an attempt to recover full costs of production, notably, including lease payments to site owners for space rentals. At least one commentator has proposed that payments to site owners not be included as part of the total cost to be recovered.¹⁸ In economic terms payments to site owners are a cost of production. If payphone suppliers are not afforded compensation adequate to recover their full costs of production, there will be no supply of payphones. Refusal to credit site payments as legitimate costs reflects an economic misconception and would plainly not constitute sound policy as it would lead to total degradation of supply.

25. A common economic misconception arises when the supply of a durable good is not affected by its price.¹⁹ In this situation, a higher price is often said to lead to "unjust enrichment"

¹⁶ As the number of payphones declines and become scarcer relative to demand, the price of coin calls may increase. While this outcome may not be desired, it can nevertheless mitigate the adverse consequences of a regulation-induced downward spiral by reducing incentives to provide fewer payphones. This effect is analogous to the fare-*discounting* pressure that mounted as government regulation which sought to increase airline profitability led to growing excess seating capacity. In that case pressure to authorize fare increases prompted capacity expansions which led to fare discounts designed to fill up the growing number of empty seats. In the payphone context, the model works in reverse — reduced compensation prompts a contraction of capacity which leads to upward price pressure to ration available supplies.

¹⁷ This is analogous to the failure to recover costs of phones with below-average usage.

¹⁸ See Declaration of Frederick R. Warren-Boulton, submitted on behalf of AT&T.

¹⁹ We note that in the instant context the supply of potential payphone sites should, in general, probably not
(continued...)

of the owners. Higher prices are eschewed since they allegedly serve no purpose. This is a misconception — higher prices in this situation do serve a valuable purpose — they assign the resource use to the highest-valuing users. If would-be payphone callers are restricted in the amount they can effectively bid for the right to make calls by restrictions on payments for site locations, those locations will often be assigned to other competing uses. Cappuccino carts will appear at airports in spaces formerly occupied by payphone stations. Newspaper vending machines will appear on sidewalks where payphone stations used to be located.

26. Site payments serve the purpose of rationing available space to the highest-valued competing use. They affect the assignment of scarce space to particular uses. Where resources are not in fixed supply, site payments may also serve to elicit additional supplies, thereby reducing the value of any scarcity rents. The payment made by a particular user to bid a resource away from another user *is a cost* to the user. Refusal to permit recovery of a legitimate cost may make it impossible for the user to acquire usage rights in competition with other users.

27. Suppose there are literally no alternative uses to which particular space might be assigned and that, because of particular circumstances limiting the supply alternatives available to would-be callers (*viz.*, prisoners, travelers), site suppliers are genuinely positioned to extract a premium. Even in this type of situation, the ability to limit exploitation by limiting compensation and, hence, site payments is circumscribed by the ability of the prison or airport administrator figuratively “to shrink the candy-bar.” A location owner may maximize her profits by providing space for a bank with fewer payphones than would otherwise be optimal. As a result, callers may have to queue and some may not be able to complete valuable calls. Unless the regulator can regulate both price *and* output, price regulation predictably produces a degradation in quality of service and a collapse of product quality to standards consistent with the compensation permitted.

28. The general problem with trying to limit site payments to limit the extraction of locational rents is that it prevents callers (and their agents, the payphone service suppliers), who may

¹⁹ (...continued)

be taken as fixed and invariant to potential rewards. Some locations may be on fixed supply, but the supply of potential paystation sites is presumably far from perfectly inelastic. For example, Twinkies cupcake racks may compete for wall space that could alternatively be used for a payphone or space that is unoccupied may be made available for installation of a payphone.

value the ability to make a call in a particular circumstance very highly and thus possess a high willingness to pay, from using the price mechanism to induce location owners to meet their needs.

IV. The FCC's Methodology

A. Description

29. As we have seen, there are grave disabilities associated with an attempt to use a cost model to set compensation. These problems would be further exacerbated in the case of the specific cost-modeling proposals IXC advocates have proposed. These proposals would not allow for recovery of full station costs or station location lease payments.

30. The FCC's alternative approach is to rely on a market-based surrogate for setting compensation. The FCC uses the competitive local coin rate it found was typically charged in a sample of states in which there had been deregulation. This rate of \$0.35 per call is now being charged more ubiquitously, reflecting more widespread deregulation, the initiation of subsidy-free operations, the absence of barriers to competition and the increasingly widespread existence of actual competition (as the FCC correctly anticipated would occur after competitive reforms were implemented).

31. In setting the rate for coinless calls, the FCC estimated the differential costs of local coin versus coinless calls. The estimated differentials for total cost and several cost components are shown in Table 1. The FCC found that coin calls have costs for the coin mechanism, line charges that are dependent on usage, and coin collection and maintenance. Coinless calls have costs associated with ANI and interest. The American Public Communications Council argued that coinless calls also have substantial costs associated with collection and uncollectibles, but the FCC disregarded those costs. The FCC estimated that on net, the cost of coin calls is \$0.066 per call higher than the cost of coinless calls.